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ABSTRACT

This collection of abstracts is part of a continuing series providing information on recent doctoral dissertations. The 21 titles deal with a variety of topics, including the following: (1) creativity as a mediating variable in inferential reading comprehension; (2) teacher questioning and student response interaction during portions of reading comprehension lessons; (3) filtering and construction processes in the comprehension of text; (4) sequential memory abilities and reading achievement; (5) the effect of organizational pattern on comprehension; (6) the relationship of elaboration, organization, and speed of processing to text comprehension differences; (7) problems with masculine generics; (8) effects of prior knowledge and concept-building on good and poor readers' comprehension; (9)concrete-to-abstract instructional progression, readiness, and language patterns; (10) students' concepts of reading and their achievement in reading comprehension; (11) first grade students' understanding of reading terminology; (12) the contribution of prior knowledge, vividness of imagery, academic ability, and "colorfulness" of passage to students' free recall, (13) poor comprehenders' instantiation of oral and written discourse; and (14) effects of mnemonic strategy variations on students' recall. (HOD)

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Reading, Comprehension, and Memory Processes:

Abstracts of Doctoral Dissertations Published in Dissertation Abstracts International, January through June 1982 (Vol. 42 Nos. 7 through 12)

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Abstracts of the following dissertations are included in this collection:

Andersson, Billie Venturatos
CREATIVITY AS A MEDIATING VARIABLE IN INFERENTIAL READING COMPREHENSION

Bergeron, Robert Kessel
THE EFFECTS OF RHETORICALLY BASED AND RHETORICALLY DEFICIENT PURPOSES FOR READING ON READING COMPREHENSION

Bieger, George Robert
COMPREHENSION OF INFORMATION IN PROCEDURAL ASSEMBLY INSTRUCTIONS COMPRISED OF PICTURES AND TEXT

Bozsik, Beverly Elaine
A STUDY OF TEACHER QUESTIONING AND STUDENT RESPONSE INTERACTION DURING PRE STORY AND POST STORY PORTIONS OF READING COMPREHENSION LESSONS

Burns, Alan R.
FILTERING AND CONSTRUCTION PROCESSES IN THE COMPREHENSION OF TEXT

Delp, Philip Irwin
SEQUENTIAL MEMORY ABILITIES AND READING ACHIEVEMENT IN SECOND GRADERS

Glynn, K. Denise Muth
READING COMPREHENSION ABILITY AND THE SOLUTION OF ARITHMETIC WORD PROBLEMS

Hayward, Kristina Gordon
THE EFFECT OF ORGANIZATIONAL PATTERN ON THE COMPREHENSION OF THIRD- AND SIXTH-GRADE READERS

Hess, Andrew Murray
THE RELATIONSHIP OF ELABORATION, ORGANIZATION AND SPEED OF PROCESSING TO TEXT COMPREHENSION DIFFERENCES IN ELEMENTARY SCHOOL CHILDREN

Kubner, Mary Whitman
THE PROBLEM WITH MASCULINE GENERICS: THEIR USE IN COMPREHENSION

Lafontaine, Roy Andrew, III
AN INVESTIGATION OF THE RELATIONSHIP BETWEEN COGNITIVE FLEXIBILITY AND SIXTH-GRADE READERS' COMPREHENSION OF PRINT

Lee, Howard Dexter
THE EFFECTS OF PRE-READING AND DURING READING INSTRUCTIONAL STRATEGIES ON THE READING COMPREHENSION OF HIGH SCHOOL AUTOMOTIVE MECHANICS STUDENTS

McCormick, Christine Beth
THE EFFECTS OF MNEMONIC STRATEGY VARIATIONS ON STUDENTS' RECALL OF POTENTIALLY CONFUSABLE PROSE PASSAGES

Payne, Ada Mary Wilson
THE CONTRIBUTION OF PRIOR KNOWLEDGE, VIVIDNESS OF IMAGERY, ACADEMIC ABILITY AND COLORFULNESS OF PASSAGE TO STUDENTS' FREE RECALL OF LITERAL AND CONSTRUCTIVE INFORMATION

Reis, Ronald Harry
AN INVESTIGATION OF POOR COMPREHENDERS' INSTANTIATION OF ORAL AND WRITTEN DISCOURSE FOR EASY AND MORE DIFFICULT MATERIALS

Roberts, Leslie Lewis
FIRST GRADERS' UNDERSTANDING OF READING AND READING INSTRUCTIONAL TERMINOLOGY

Siders, Mary Beth Opperman
A META-ANALYTIC STUDY OF THE FACTORS OF READING COMPREHENSION

Sylvester, Ellen Louise Smith
EFFECTS OF PRIOR KNOWLEDGE AND CONCEPT-BUILDING ON GOOD AND POOR READERS' COMPREHENSION OF EXPLICIT AND IMPLICIT RELATIONS

Taylor, Stephen Edwards
CONCRETE-TO-ABSTRACT INSTRUCTIONAL PROGRESSION, READINESS, AND LANGUAGE PATTERNS: AN INTERACTIONAL ANALYSIS

Wade, William Alfred
RELATIONSHIPS OF ELICITED ORAL AND WRITTEN LANGUAGE WITH READING COMPREHENSION SCORES AMONG NINE- TO TWELVE-YEAR-OLD CHILDREN

Worley, Carolyn Juergensmeyer
STUDENTS' CONCEPTS OF READING AND THEIR ACHIEVEMENT IN READING COMPREHENSION

CREATIVITY AS A MEDIATING VARIABLE IN INFERENTIAL READING COMPREHENSION Order No. 8129909

ANDERSSON, BILLIE VENTURATOS, PH.D. *University of New Orleans*, 1981. 169pp.

The study investigated the relationship between creativity and inferential reading comprehension of sixth-grade children. The predictor variables were the creative abilities of the subjects as measured by three divergent subtests of the Structure-of-Intellect Abilities Test. The criterion variable was inferential reading ability scores on 120 items of an investigator-made test. It was hypothesized that creative individuals would demonstrate superior inferential comprehension, regardless of schema availability. Ability estimates were calculated using latent trait methods.

The subjects chosen for the study were 205 sixth-grade students of two parochial schools, one in New Orleans and the other in New York. Subjects were tested in groups of 20 to 30. Testing was conducted one hour each day over a three day period.

Two research questions were posed by the study: (1) What is the relationship of schema accessibility to children's inferential reading comprehension? and (2) What is the relationship of creativity to children's inferential reading comprehension? It was hypothesized that the multiple correlation between test-free ability scores and the creativity variables would be zero. This null hypothesis was tested at the .05 level of statistical significance and the null hypothesis was rejected. The results suggest that creative talents contribute to inferential comprehension. If the specific content of a passage is not part of a person's experience, apparently, the creative individual is more likely to form a new avenue of thought, organize material in a different fashion and thus further expand comprehension of implicit information.

THE EFFECTS OF RHETORICALLY BASED AND RHETORICALLY DEFICIENT PURPOSES FOR READING ON READING COMPREHENSION Order No. DA8211398

BERGERON, ROBERT KESSEL, PH.D. *The University of Connecticut*, 1981. 173pp.

Purpose. This study focuses on reading comprehension as influenced by a rhetorically based or deficient purpose. A rhetorically based purpose provides a personally important reason to read. A rhetorically deficient purpose is academically oriented. Purpose, in this study, is structured additionally with a rhetorically based medium of communication and a rhetorically based audience. A rhetorically based medium of communication is one commonly used in our society. A rhetorically deficient medium of communication is largely confined to the classroom. A rhetorically based audience is one appropriate for acknowledging student accomplishments. An inappropriate audience is rhetorically deficient.

The following questions were addressed. Will reading comprehension differ with a rhetorically based versus a rhetorically deficient purpose? Will boys or girls comprehend similarly with rhetorically based or deficient purposes? Will contrary rhetorical purposes affect different measures of comprehension?

Procedures. One hundred ninety-two intermediate grade students were stratified by sex and randomly assigned a rhetorically based or deficient purpose for reading an article about popcorn. The rhetorically based purpose suggested that popcorn would be included in the school menu if students performed well in understanding and recalling text. The rhetorically deficient purpose stated that the information would be fun to read. Both groups performed a sentence completion task and wrote an informal letter to the school cook retelling what they learned and remembered.

Factorial analyses of variance with age, standardized reading ability scores, and verbal IQ scores as covariates provided the statistical method for assessing data. Independent variables were rhetorical treatment of purpose and sex. Dependent variables were literal, retelling and combined comprehension scores.

Conclusions. The analyses at the $p < 0.05$ significance level indicate no difference in mean scores with respect to dependent variables. These results demonstrate that when a rhetorically based or a rhetorically deficient purpose is structured with a rhetorically based medium of communication and audience, no reading comprehension differences occur. Findings suggest further that rhetorical purpose alone, as presented, does not exert an overriding motivational effect.

Future research might further delineate the effect of rhetorical purpose when coupled with a deficient communication medium and audience.

COMPREHENSION OF INFORMATION IN PROCEDURAL ASSEMBLY INSTRUCTIONS COMPRISED OF PICTURES AND TEXT Order No. DA8210853

BIEGER, GEORGE ROBERT, PH.D. *Cornell University*, 1982. 156pp.

A comprehensive review of the research involving the use of pictures with text to convey information revealed inconsistent and often contradictory findings. These conflicting results were attributed to various theoretical and methodological flaws in most of this prior research. The main source of inadequacy was in the general failure to describe the relevant characteristics of the stimuli. This research proposed several remedies to the flaws in past research and in particular developed a method for describing and hence controlling the relevant information in the materials. This method was tested empirically by examination of the effects of presenting various categories of information in either text, picture, or both.

The initial phase consisted of the development of a taxonomy of categories of information that are present in procedural assembly instructions. Next, these categories of information were combined in various ways in thirty-six sets of instructions in order to test their validity. One hundred ninety-two subjects received one of these sets of instructions for two different assembly tasks. The number of errors and assembly times were compared among all instructional conditions and it was found that the categories identified as important may constitute the 'necessary and sufficient' information for successful execution of the instructions. Additionally, pictures were found to increase the speed of assembly when they conveyed either spatial or contextual information, and text was found to improve accuracy when it conveyed spatial information. An exploratory investigation using eye movement monitoring techniques demonstrated the utility of such procedures in examining the reader-material interaction during reading.

The results of this research were discussed regarding their implications for the preparation of instructional materials, the development of a theory of learning, and the design of future investigations involving text and pictures.

A STUDY OF TEACHER QUESTIONING AND STUDENT RESPONSE INTERACTION DURING PRE STORY AND POST STORY PORTIONS OF READING COMPREHENSION LESSONS Order No. 8202227

BOZSIK, BEVERLY ELAINE, PH.D. *University of Pittsburgh*, 1981. 202pp.

The purpose of this study was to determine the types of solicitation patterns exhibited by pre-service and in-service teachers as determined by the Question-Response Interaction (QRI) instrument. The QRI was designed as an observational instrument to note the solicitor, the type of solicitation, the antecedent relationship between question and response, the questioning strategy, the categories, the types of questions, the types of responses, and the level of support of the responses. The study also determined the wait-time for responses and the lengths of pre and post story portions for high and low reading groups.

Four volunteer in-service teachers and four volunteer pre-service teachers from an inner city elementary school in western Pennsylvania were the subjects. The setting was an open space magnet school. There were five trained observers who were all college graduates in elementary education. Each observer participated in three observation sessions prior to the collection of data. These sessions were part of the training program instituted before the study. The observers collected data on the QRI, taped each comprehension lesson, and circled the appropriate categories on the QRI.

The inter-observer agreement for the QRI was established during the first and third weeks of the experiment. The overall reliability of the QRI was .89. Each category was analyzed and reliability for each cell was determined in case further clarification of definitions was needed. Content validity was established by four examiners. These examiners were all certified reading supervisors each of whom had at least ten years of classroom teaching experience.

A secondary instrument used to gather additional data was the Questionnaire: Reading Lesson. This instrument was distributed after the study to insure consistent behavior of the observed subjects.

Each subject was observed teaching pre and post story portions of reading comprehension lessons to high and low reading groups.

These groups were determined by the testing guidelines set by the school district. An audio recording was made of each observation.

The results of the data indicated that a high percentage of textually explicit questions were asked of the low groups by the in-service teachers. Most of these questions occurred during two and four block interactions. The high group was asked more textually implicit questions and the responses to these questions were supported. The low group responded with unsupported purpose or unsupported verification responses.

The wait-time for the low group was less than the time given to the high group. More time for discussion was noted for the high group post story than the low group post story.

The results of the Questionnaire: Reading Lesson showed that in-service and pre-service teachers engaged in comprehension assessment more often than in comprehension instruction.

The conclusion drawn from this study suggested that the types of teacher questions were dependent upon the length of the interaction block and the reading group type. As the length of the interaction block increased, the questions for the high group became less textually explicit and more textually implicit. Whereas, for the increased length of the interaction block for the low group, the questions remained textually explicit. The types of responses changed as the interaction block increased. For the high group more of the responses were supported but for the low group most of the responses remained unsupported.

The low group was denied the time to respond while the high group was given longer time periods to respond.

Teachers should be aware of the types of questions asked and responses elicited from their students while examining the questions for comprehension assessment or comprehension instruction. The investigator also suggests that more wait-time be given to the low reading groups.

FILTERING AND CONSTRUCTION PROCESSES IN THE COMPREHENSION OF TEXT

BURNS, ALAN R., PH.D. *The University of Chicago*, 1981.

The major goal of this study was to determine if reading comprehension consists of certain internal processes (filtering and construction) which are subject to certain external influences (text structure and prereading instructions). Filtering processes (input selection and retrieval failure) account for the fact that people are not able to retrieve from memory all that they have previously read. Construction processes account for the fact that people often remember ideas which were never explicitly stated in a text. It was hypothesized that external factors, text structure and prereading instructions, influence filtering and construction processes. Specifically, it was predicted that: (1) Explicit sentences located high in the text structure would more likely be filtered than those low in the structure. (2) Implicit ideas located high in the text structure would more likely be constructed than those low in the structure. (3) Prereading instructions can influence filtering processes such that memory for explicit sentences is improved at certain structural levels and impaired at others. (4) Prereading instructions can influence construction processes such that memory for implicit ideas is improved at certain structural levels and impaired at others. Certain relationships between the semantic structure of individual sentences in text and the semantic structure of individual propositions in memory were also studied. The final prediction was: (5) Propositions are enriched during comprehension with additional semantic information derived from lexical and contextual inferences.

Three treatment groups were defined by the instructions given prior to reading the passages. The GD group was told they would have to make general decisions and recommendations after reading the passages. The SF group was told they would have to answer questions about specific facts. The QA group was a neutral group told only that they would have to answer questions. The GD instructions were intended to cause readers to filter and construct more heavily from superordinate levels in the text. Conversely, SF instructions would result in more filtering and construction at subordinate levels. The QA instructions would lead to more balanced applications at all levels in text. The dependent variables in the study were verification time, error rate, and passage reading time.

Interactions involving Passage in several of the analyses indicated that there may have been certain unforseen differences between the two passages. Subject reports and empirical evidence suggested this may have been the case. For the presumably more difficult passage, hierarchical memory structures were less differentiated in terms of level, only implicit propositions at superordinate levels were likely to have been constructed during reading, and instructions had no discernible effects on the filtering of explicit information. For the presumably easier passage, memory representations were more differentiated in terms of level, implicit propositions at all levels were more likely to have been constructed during reading, and instructions differentially affected the filtering of explicit information. The clearest finding was that superordinate propositions in memory consisted of explicit superordinate information and certain lexical inferences based on this information.

SEQUENTIAL MEMORY ABILITIES AND READING ACHIEVEMENT IN SECOND GRADERS Order No. 8129495

DELP, PHILIP IRWIN, PH.D. *University of South Carolina*, 1981. 128pp.

In a study of visual and auditory sequential memory abilities and reading achievement 24 experimenter-designed reconstruction tests of sequential memory were administered to three groups of white middle class second grade boys of normal intelligence (poor, average, and good readers; n = 18 per group). The 24 tests were varied according to presentation mode (auditory successive, visual successive, or visual concurrent), response mode (vocal or manual), and stimulus content (pictures, digits, consonants, or words). An analysis of variance found significant main effects attributable to reading group, presentation mode, and stimulus content, and also found a number of significant interactions. An intercorrelation matrix and a factor analysis found the memory tests to be closely related. The total memory score was found to discriminate the three reading groups better than did a Henmon-Nelson IQ score. Nearly all of the memory tests were significantly correlated with reading achievement. Strongest relationships to reading were found among the visual concurrently presented memory tests using nonpictoral stimuli. Practical implications and directions for future research were discussed.

READING COMPREHENSION ABILITY AND THE SOLUTION OF ARITHMETIC WORD PROBLEMS Order No. 8201538

GLYNN, K. DENISE MUTH, PH.D. *University of Georgia*, 1981. 86pp. Director: Ira E. Aaron

The intent behind this study was to examine the relative contributions of two individual difference variables, reading comprehension ability and arithmetic computation ability, to the successful solution of arithmetic word problems. In addition, the effects of two text variables, problem content (absence vs. presence of extraneous information) and syntactic structure (simple vs. complex, conditional sentences) were assessed. The performance measures were the number of problems correctly solved, the number of problems correctly set up, and the total amount of time spent solving the problems.

Two hundred sixth-grade students participated in the study. Their scores on the Comprehensive Test of Basic Skills provided measures of reading comprehension ability and arithmetic computation ability. In order to assess the effects of extraneous information and syntactic structure, a 15-item arithmetic word problem test was constructed. Four versions of the test were formed by combining the two variations of content (absence vs. presence of extraneous information) with the two variations of structure (simple vs. complex, conditional sentences). Subjects were randomly assigned to one of the four versions.

Regression analyses indicated that reading comprehension ability, arithmetic computation ability, and problem content accounted for about 67% of the variance associated with total correct answers and set ups. Specifically, as students' reading comprehension and arithmetic computation abilities increased, so did the number of their correct answers and set ups. In addition, when extraneous information was absent, the number of correct answers and set ups tended to be higher.

Reading comprehension ability and problem content together accounted for a small (15%) but significant amount of the variance associated with total solution times. As students' reading

comprehension ability increased, their solution times decreased. Also, when extraneous information was absent, solution times tended to be less.

In short, the aforementioned findings suggest that both reading comprehension ability and arithmetic computation ability contribute to success in the solution of arithmetic word problems. The findings also suggest that the presence of extraneous information in the problem format imposes additional demands on the students' abilities. The effect of syntactic structure was not significant.

THE EFFECT OF ORGANIZATIONAL PATTERN ON THE COMPREHENSION OF THIRD- AND SIXTH-GRADE READERS

Order No. DA8205917

HAYWARD, KRISTINA GORDON, PH.D. *The Pennsylvania State University*, 1981. 128pp. Adviser: Emery P. Bliesmer

Past reading research has shown that passage organizational patterns can affect reading comprehension. Sequential and cause-effect organizations are common patterns found in today's textbooks but have received little empirical attention. The purpose of the present study was to assess the effects of these organizational patterns and passage difficulty (at- and above-grade level) on the comprehension of third- and sixth-grade students, all of whom read at grade level. Literal and inferential recall were assessed by a sentence-completion task; explicit and implicit recognition were measured by a statement recognition task. Each subject read three sequential or cause-effect passages written at-, and three passages of the same organizational pattern written above-, grade levels.

Separate analyses of variance were conducted to assess the effects of Organizational Pattern, Grade Level, and Passage Difficulty on each dependent measure: literal, inferential, explicit, and implicit question types. Two additional analyses examined the effect of Item Type (sentence completion and recognition) and Question Type (verbatim and interpretive), as well as Grade Level and Organizational Pattern, for passages written at- and above-grade levels.

Results indicated that the sequential organization facilitated literal comprehension but did not affect comprehension as measured by the other question types. All subjects scored lower on the literal, implicit, and explicit questions after reading passages written above-grade level than after reading passages written at-grade level. For above-grade-level passages, third-grade readers also scored significantly lower on inferential questions as compared to sixth-grade readers. Sixth graders scored significantly higher on explicit items than did third-grade readers.

It was concluded that sequential organization, as textual schemata, focused the reader's attention upon information called for in the literal question. However, the proposed schemata did not lead the readers to interpretive thinking. Passage difficulty differentially affected completion of certain types of responses. Differences between third- and sixth-grade readers suggested that the transition to skilled reading from beginning reading may involve the development of a strategy of organizing words meaningfully and a remembering strategy which facilitates the comprehension of certain tasks.

THE RELATIONSHIP OF ELABORATION, ORGANIZATION AND SPEED OF PROCESSING TO TEXT COMPREHENSION DIFFERENCES IN ELEMENTARY SCHOOL CHILDREN

Order No. DA8206797

HESS, ANDREW MURRAY, PH.D. *State University of New York at Albany*, 1981. 174pp.

Previous research has argued that children who differ in reading comprehension are less skilled (i.e., are slower) in speed of verbal processing generally and in the rate of decoding more specifically. In current conceptualizations no explanatory power is given to sentence or thematic structure variables such as the child's ability to draw inferences, to elaborate or go beyond the information given, or to the child's sensitivity to text structure variations.

This study provided an extension of current theory and research in an analysis of the cognitive processes which are required in reading comprehension. Factors related to both semantic processing and speed of processing were investigated. In the context of this research elaboration was operationally examined through measures of pragmatic, inferential processing in both story and sentence recognition tasks. Both facility in elaboration processes and stage at which inference occurs (i.e., encoding or retrieval) were investigated. Organization was defined as the readers' sensitivity to the rated informational importance of an idea unit in the text base during free recall of a short story. The speed of processing variable was examined within the context of a more general versus a more restricted hypothesis of speed of processing deficiencies. The measure for the test of the more general speed of processing deficiency was the child's latency scores on a cued sentence recall task. In order to investigate whether poor comprehenders evidence a speed of processing deficiency in a more restricted domain (i.e., decoding), vocalization latencies were obtained for the decoding of highly familiar words. Eighty-three (83) subjects participated in the investigation at each of two grade levels (Grade 4, 6).

The results of the analyses yielded support for several specific semantic processing deficiencies for poor comprehenders, though the hypothesis of a general semantic processing deficiency was not supported. Poor comprehenders recognized both explicit information and acceptable inferences less frequently than their proficient peers. Marked differences were also observed between the fourth grade poor and the sixth grade poor comprehenders in the children's ability to correctly recognize contextual inferences. These results were partially replicated in terms of accuracy in recall on the cued sentence recall task with significant differences between the good and poor comprehender groups for recall with explicitly stated instrument cues and with significant differences between the poor comprehender groups for recall of those sentences using implicit instrument cues.

In free recall poor comprehenders generally recalled fewer idea units per story and added significantly more unacceptable thematic intrusions in their retellings than did their proficient peers. However, the poor comprehenders at each grade level did demonstrate that they could organize presented information using importance or structural information to facilitate their retelling of the presented, short stories. The results of the analyses related to speed of processing did yield support for a generalized speed of processing deficiency for the poor comprehenders. Both in speed of decoding and rate of retrieval the poor comprehenders demonstrated significantly slower latencies than did the good comprehenders. This generalized speed of processing deficit points to the centrality of this construct in research on information processing and on developmental and individual differences.

This study supports the position that deficits in the processes underlying reading comprehension might better be viewed as multifaceted rather than as single dimensional deficits. Differential transfer models of learning which predict that different abilities are required at different stages of learning a particular skill, offer a more adequate description of the multi-faceted needs of children with deficiencies in reading comprehension.

THE PROBLEM WITH MASCULINE GENERICS: THEIR USE IN COMPREHENSION

Order No. DA8207209

KUHNER, MARY WHITMAN, PH.D. *The Ohio State University*, 1981. 155pp. Adviser: Professor Victor Rentel

Sentence/picture matching studies of generic understanding have traditionally focused on the form of the generic term as the independent variable (as causal) rather than on the subjects. The study points out that this is due to their externalist orientation: the notion that words put ideas in people's heads. Such a position ignores the contribution of subject cognition thereby confounding conclusions about the nature of comprehension.

The experimental procedure of the present study is similar to the previous sentence/picture matching studies; however, it focuses on the subjects as the independent variable. Results of the procedure and ensuing case studies support the claim that the relation between the form of the term and the comprehension of it is neither simple nor self-evident: contrary to previous studies, it is shown that comprehension is, in part, a function of subject cognition rather than the form of test terms. That is, subjects imposed meaning on words, not vice versa. Specifically, the form that meaning took was found to be governed by stage of logical maturity (age) and rhetorical point of view (sex). The "meaning" referred to above is rather a broad index of complexity which includes a range of literal to figurative comprehension in the form of concrete (iconic) to abstract (collective or androgynous) figures tested. It was found that older subjects preferred the more complex 'generic' forms whereas the younger subjects preferred the simplex iconic forms. It was further determined that the reference of generics includes a rhetorical factor in that subjects tended to include themselves in the referent choice by sex.

Whereas a series of ANOVA's were used to confirm the broad aspects of comprehension, the case studies detailed the interplay between subject cognition and other factors which determined the comprehension of specific test items. It is shown that sentence/picture matching tasks of this type are seriously flawed in design and underlying assumptions. These are problems of validity which can be compensated for to some extent by eliciting self-reports of understanding and reasoning strategies.

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN COGNITIVE FLEXIBILITY AND SIXTH-GRADE READERS' COMPREHENSION OF PRINT

Order No. DA8205239

LAFONTAINE, ROY ANDREW, III, PH.D. *University of Maryland*, 1981. 147pp. Supervisor: Dr. Ruth Garner

The present study was conducted as a means of investigating the relationship between cognitive flexibility and reading comprehension. The ETS *Different Uses Test XU-4* was administered to 273 sixth-grade students from a middle school in Charles County, Maryland. Sixty-four students were selected from the initial subject pool to participate in two subsequent research sessions. On the basis of their performance on the *Different Uses Test XU-4* and teacher judgment of their decoding and encoding proficiencies, subjects were assigned to one of two treatment groups (i.e., high cognitively-flexible readers and low cognitively-flexible readers). Subjects in both groups were systemically assigned comprehension-task materials which were designated as being either a strong match or a weak match to the subjects' verbalized prior knowledge. It was anticipated that differences in comprehension-task performance would be observed between: (1) high and low cognitive-flexible readers, and (2) subjects who had been assigned strong-match material and subjects who had been assigned weak-match material. The results of the present study indicate no statistically significant difference between the comprehension-task performance of high and low cognitively-flexible readers. However, the results do indicate a statistically significant difference between the comprehension-task performance of subjects who were assigned strong-match material and subjects who were assigned weak-match material. Finally, implications for research, theory, methodology, and classroom practice are discussed.

THE EFFECTS OF PRE-READING AND DURING READING INSTRUCTIONAL STRATEGIES ON THE READING COMPREHENSION OF HIGH SCHOOL AUTOMOTIVE MECHANICS STUDENTS

Order No. DA8211500

LEE, HOWARD DEXTER, PH.D. *University of Minnesota*, 1981. 214pp.

Purpose of the Study. The purpose of the study was to investigate the effectiveness of two instructional strategies, pre-reading and during reading upon the reading comprehension of industrial arts automotive mechanics students.

Procedures. Two experiments were conducted in this study. In the first, 64 automotive mechanics students were randomly assigned to one of three treatment groups, pre-reading (E_1), during reading (E_2) and control (C). Students read the chapter according to treatment, took a post-test, performed a laboratory activity and took a quiz designed to measure comprehension of laboratory activity. The second experiment was a treatment replication with a different chapter. Students read the chapter according to treatment, took a post-test and an attitude survey designed to measure treatment effects.

Findings and Conclusions. Two research questions were addressed. The first asked if there was any difference between E_1 and E_2 vs. C. Analysis of the data in the first experiment and supported by results in the second experiment indicated a significant difference in mean scores on the comprehension post-test favoring the experimental treatment groups E_1 and E_2. Evidence from the study did not support transfer of the reading treatment to the laboratory activity, but did indicate a significant difference favoring the experimental treatment groups on the laboratory quiz. Although the mean scores on the attitude scale were different favoring the experimental treatment groups, the difference was not significant.

The second research question compared the effects of E_1 vs. E_2. Evidence from the first experiment and supported by the second indicated that there was no difference between E_1 and E_2 on the post-test, laboratory activity or laboratory quiz. However, subjects in the E_2 group scored significantly higher than subjects in the E_1 group on the attitude scale.

Based on the findings, the following conclusions are made: (1) Pre-teaching vocabulary (pre-reading) and the use of study guides (during reading) can be developed and used successfully to facilitate reading comprehension of industrial education textbook materials. (2) Exposure of subjects to pre-reading and during reading strategies can transfer to subjects' comprehension of laboratory activities. (3) Subjects indicated a more positive attitude toward the reading guide which required active responses by subjects as they read.

THE EFFECTS OF MNEMONIC STRATEGY VARIATIONS ON STUDENTS' RECALL OF POTENTIALLY CONFUSABLE PROSE PASSAGES

Order No. 8124621

MCCORMICK, CHRISTINE BETH, PH.D. *The University of Wisconsin - Madison*, 1981. 159pp. Supervisor: Professor Joel R. Levin

Two hundred and twenty eighth-grade students were presented biographies of fictitious people which were constructed so as to be potentially confusable. Some students were instructed to use a prose-learning mnemonic technique based on the keyword method to aid them in remembering the information in the passages. Each keyword student was provided instruction in one of three variations of the keyword method, differing in terms of the organization of mnemonic images produced by the imagery instructions. On the other hand, the control students were instructed to use their own best method to help them remember the information. All three variations of the keyword instruction resulted in significantly higher levels of recall (as measured by a short-answer test) in comparison to the control students. This result occurred for two different test question orders, random and ordered. Furthermore, keyword students could also be distinguished from the controls, as well as from one another, on the basis of qualitative differences in their recall patterns. Suggestions for future research and implications for classroom practice are included in the discussion of these results.

THE CONTRIBUTION OF PRIOR KNOWLEDGE, VIVIDNESS OF IMAGERY, ACADEMIC ABILITY AND COLORFULNESS OF PASSAGE TO STUDENTS' FREE RECALL OF LITERAL AND CONSTRUCTIVE INFORMATION Order No. 8129756

PAYNE, ADA MARY WILSON, ED.D. *University of Kentucky*, 1981. 109pp.

The purpose of this study was to investigate several factors which may explain the variation in readers' recall of a passage. These factors were readers' prior knowledge of a passage topic, their predisposition to image vividly, their general academic ability, and their having read a neutral or colorful passage. Specific research questions involving these factors were raised relative to subjects' reading of a neutral or colorful passage.

A passage about a half inning of a baseball game was chosen for the subjects to read. A colorful version of this passage was created by the addition of descriptive words and the use of more colorful verbs to replace those in the original neutral passage. Tests of prior knowledge of baseball information and vividness of imagery were administered to the subjects, college freshman and sophomores, at the time they read either the neutral or colorful passage. Scores for academic ability were taken from students' records.

Written recalls of the neutral or colorful passage were analyzed propositionally. Propositional text bases of subjects' recalls were compared to text bases of the passages in order to count the number of literal and constructive propositions in each recall. In addition, literal and constructive propositions which were descriptive were counted and included in analyses of the data.

The results indicate that prior knowledge of the topic of the passage is the best predictor of the amount of literal and constructive information in recall of either a neutral or colorful passage. When literal and constructive descriptive information in recalls was analyzed, levels of significance increased for prior knowledge. The findings indicate that colorfulness of passage was marginally significant for recall of literal descriptive information. A test ordering effect for literal information was found when the test of vividness of imagery was administered before the passage.

The implications of this study are that reading materials in unfamiliar subject areas should be introduced in the widest possible context to involve any prior experiences or background which students may have. Another implication is that colorful material may facilitate memory for literal detail.

AN INVESTIGATION OF POOR COMPREHENDERS' INSTANTIATION OF ORAL AND WRITTEN DISCOURSE FOR EASY AND MORE DIFFICULT MATERIALS

Order No. DA8205259

REIS, RONALD HARRY, PH.D. *University of Maryland*, 1981. 154pp.
Supervisor: Dr. Beth Davey

The primary aim of this study was to investigate the instantiation process in poor comprehenders. Specifically, the study examined two factors, material difficulty and mode of presentation, which could affect poor comprehenders' ability to instantiate. In addition, a secondary purpose of the study was to examine in an interview task poor comprehenders' views of reading and listening processes.

The subjects were drawn from a population of eighth grade poor comprehenders from a junior high school in suburban Maryland. The subjects were selected based on teacher judgment and subjects' scoring in the second and third stanines of the reading comprehension subtest of the *Iowa Tests of Basic Skills*.

For the instantiation task 12 sets of sentences were developed. Each subject read three easy and three more difficult sentence sets and listened to three easy and three more difficult sentence sets. Following the reading of or listening to a sentence set, each subject was presented with three response methods; free recall, cued recall, and pictorial recognition. The results of the instantiation task revealed significant differences between easy and more difficult materials after reading in the three response methods. Significant differences were also found between easy and more difficult materials after listening in free recall and pictorial recognition. In comparing reading and listening differences for easy and more difficult materials, significant differences were revealed only in cued recall for the easy materials. The direction of the differences in cued recall was in favor of reading.

For the interview task, nine questions were utilized to describe the subjects' view of reading and listening. Three questions were warm up questions; three questions were about the subjects' view of the reading process; and three questions were about the subjects' view of the listening process. The results of the interview task suggested that poor comprehenders primarily characterize their views of reading as decoding/word pronounciation and as procedures typical of classroom instructional practices; the poor comprehenders' views of listening were characterized with a focus on listening as being a "meaning-getting" process.

Possible explanations of the results of the investigation, the nature of the response methods, and the implications for theory, research, and instruction are discussed.

FIRST GRADERS' UNDERSTANDING OF READING AND READING INSTRUCTIONAL TERMINOLOGY

Order No. DA8203864

ROBERTS, LESLIE LEWIS, ED.D. *The University of Tennessee*, 1981. 137pp. Major Professor: J. E. Alexander

The purpose of the study was to determine how a group of normal-age first graders, who had completed a year of kindergarten, developed in their understanding of reading and reading instructional terminology during their first year of formal reading instruction. A series of experimental tasks was used to gather quantifiable data about children's understanding of the terms letter, *sound*, *word*, and *sentence*, and interviews were conducted to gain insight into children's thinking about the reading process. Additionally, selected children were observed during periods of reading instruction in their normal classroom situations.

Participants in the study were 60 first graders, 30 boys and 30 girls, chosen by a stratified random sample method from four elementary schools in Cookeville, Tennessee. The children were tested and interviewed individually during the first week of school and at the end of two consecutive 12-week intervals thereafter.

It was found that prior to formal reading instruction, many first graders did not have precise or conventional meanings for the terms *letter*, *sound*, *word*, and *sentence*. There was a tendency among these children to confuse letters with numbers and symbols, to confuse phonemes with words and letter names, to confuse words with letters, to be unaware of printer's space as the boundary between written words, and to be unfamiliar with the concept of a sentence.

During the normal course of reading instruction most children achieved clarification of these concepts, but some remained unsure of exact meanings for several months. The terms *letter* and *word* became clear to most children before the terms *sound* and *sentence*. The concept of *sound* as a phoneme was difficult for these first graders to understand, and about one third of them continued to confuse sounds with letter names throughout the year. Over half of these first graders considered a single line of print to be a sentence after several months of reading instruction. Recognition of printer's space as the salient cue for word boundary developed rapidly as reading instruction progressed, although the tendency for some children to reject short words as individual units continued throughout the year.

Interviews indicated that these beginning first graders varied considerably in their understanding of the nature and purposes of reading and in their ability to convey this understanding in spontaneous conversation. After several weeks of reading instruction most children identified "knowing the words" as the main attribute of good reading. Their favored strategy for dealing with an unknown word was to "sound it out."

Using specially prepared observation instruments the investigator was able to record the behavior of individual children during reading instructional periods but was unable to verify a connection between demonstrated confusion about instructional terminology and subsequent reading behavior.

A META-ANALYTIC STUDY OF THE FACTORS OF READING COMPREHENSION Order No. DA8203721

SIDERS, MARY BETH OPPERMAN, PH.D. *The University of Florida*, 1981. 139pp. Chairman: Dr. William R. Powell

The purpose of this investigation was to examine the data of existing research studies in reading comprehension in order to synthesize and identify the constituent factors involved in the reading comprehension process. Seventeen studies were located that investigated the constituent factors of reading comprehension and provided the necessary data for inclusion in this study. The studies used subjects ranging in age from nine to adult. The total sample size was n = 28,593. The sample size was determined to be representative of the United States with respect to geographical region and socioeconomic status.

Eight skills from the seventeen studies met the criteria for inclusion in this investigation. These skills were identified as: (1) context, (2) sequence, (3) main thought, (4) facts, (5) reasoning, (6) inference, (7) literary devices, and (8) writer's purpose, intent, and point of view. An 8 x 8 intercorrelation matrix of Pearson Product moment correlations was then constructed for meta-analysis.

Utilizing the meta-analytic procedure, Hypothesis I: The synthesis of the relationship of the identified reading comprehension skills will show that the skills are not related to each other, was investigated. The meta-analysis resulted in an intercorrelation matrix of Pearson correlation coefficients that were all moderately correlated with each other. All of the intercorrelations were shown to be positive with a range of .27 between the highest of .69 and the lowest of .42 (uncorrected for attenuation).

Hypothesis II: There is no difference in the amount of common factor variance explained between a single factor solution and a multi-factor solution was investigated utilizing the principal components method of factor analysis. The resulting test loadings indicated that one factor accounted for 60 percent of the total variance. All eight skills were highly loaded on factor one which was identified as general comprehension.

Thus, the results of this study show that the eight constituent skills, as identified through a synthesis of the literature, were actually measuring one factor, general reading comprehension. These results lend support to the theory that reading comprehension is a unitary ability rather than a combination of specific skills.

EFFECTS OF PRIOR KNOWLEDGE AND CONCEPT-BUILDING ON GOOD AND POOR READERS' COMPREHENSION OF EXPLICIT AND IMPLICIT RELATIONS Order No. DA8206429

SYLVESTER, ELLEN LOUISE SMITH, PH.D. *University of Minnesota*, 1981. 339pp.

This study explored the roles of prior knowledge, reading ability and concept-building instruction in reading comprehension.

One hundred third-grade students blocked on reading ability first were given prior knowledge assessments on which they made word associations and statements about five word-concepts important to three science readings and answered general and specific probes about information presented.

One experimental treatment group made word associations and used those associations in discussions of set relations and properties of state and function. Another treatment added discussion of possible relationships among word-concepts. Three other treatments were controls for the Hawthorne effect and time on topic.

Immediate and delayed comprehension tests consisted of the same five text-based and five knowledge-based questions presented in different orders. Responses were judged for quality and source. Correct comprehension scores generated under lenient and strict systems and response source scores were dependent variables.

Conceptual and informational knowledge showed equivalent strengths of relationship with correct comprehension. Within-group correlation coefficients between total prior knowledge and correct comprehension scores ranged from .42 to .64, with one of .16 on a strictly scored delayed test. Accounting for reading ability dropped values by .2 or .3.

Prior knowledge and reading ability as measured by cloze test scores generally showed equivalent strengths of relationship with correct comprehension. On two selections, r-values were higher for cloze scores and delayed strict scores, while on the final article prior knowledge showed a stronger relationship with leniently scored delayed test results.

Concept-building treatments did not affect the source nor, generally, the quality of responses given to comprehension questions. On one selection, the Concepts and Relations treatment may have interfered with immediate comprehension scored leniently. While several factors may explain the lack of concept-building benefits, short-term instruction on knowledge structures probably is not a viable alternative to knowledge acquired gradually.

CONCRETE-TO-ABSTRACT INSTRUCTIONAL PROGRESSION, READINESS, AND LANGUAGE PATTERNS: AN INTERACTIONAL ANALYSIS Order No. 8129479

TAYLOR, STEPHEN EDWARD, PH.D. *University of South Carolina*, 1981. 76pp.

The effects of instructional progression, readiness, and language patterns on reading recognition were examined and possible interactions of these factors were investigated. A random sample of 120 first-grade students who were either ready for school or at risk for school difficulties according to results of the Cognitive Skills Assessment Battery, South Carolina version, was drawn from two eastern South Carolina school districts, one which serves primarily urban students and one which serves primarily rural students. Preliminary testing designated the subjects as either syntagmatic in language pattern (resulting in responses to stimulus words which could precede or follow the stimulus in normal syntax) or paradigmatic (resulting in responses to stimulus words with replacement words bearing a superordinate, part-whole, coordinate, or contrasting relationship to stimuli). The subjects were given instruction in reading recognition with word pairs of three sequences: concrete-to-abstract, abstract-to-concrete, or random pairs in twelve treatment conditions formulated by level of instructional progression, level of readiness, and level of language pattern. Results of analysis of variance and Duncan Multiple Range tests indicate significance of the main effects without significant interactions among the three factors. Findings confirmed the results of earlier studies suggesting that initial reading instruction is positively facilitated by concreteness of verbal elements, readiness, and paradigmatic language structure.

RELATIONSHIPS OF ELICITED ORAL AND WRITTEN LANGUAGE WITH READING COMPREHENSION SCORES AMONG NINE- TO TWELVE-YEAR-OLD CHILDREN Order No. 8200983

WADE, WILLIAM ALFRED, ED.D. *Northern Illinois University*, 1981. 134pp.

The purpose of the study was to investigate the relationships of children's oral and written language with their reading comprehension scores. The sample included 108 children, ages nine, ten, eleven, and twelve. Stimulus pictures were used to elicit oral and written language samples.

The language samples were analyzed to assess the T-units, total words, dependent clauses, a subordination ratio, words per T-unit, and words per clause. Reading comprehension scores were the children's scores on the Iowa Test of Basic Skills, Subtest R.

Statistical analyses showed the mean number of oral T-units is significantly correlated with reading comprehension scores for all subjects as well as the ten- and eleven-year-old group. The mean number of written T-units was significantly correlated with reading scores for only the nine-year-old group.

The number of words per oral clause and written clause is significantly correlated with reading comprehension.

The number of oral noun clauses was significantly correlated with reading comprehension scores.

The number of words per written clause is the best single predictor of reading comprehension scores, accounting for about 10 percent of the variance in reading scores.

When only oral variables are used to predict reading scores, the number of words per oral clause is the best single predictor, accounting for about 7 percent of the variance of scores.

When only the written measures were used, the number of words per written clause and the number of written noun clauses accounted for about 12 percent of the variance in reading scores.

In this study, better readers used fewer T-units in their oral language than poorer readers. Better readers used more words per clause in their oral language. Better readers used more words per written clause.

Oral and written language production is related to reading comprehension. The present research indicates that both oral and written language measures can be useful tools in evaluating children's reading achievement.

STUDENTS' CONCEPTS OF READING AND THEIR ACHIEVEMENT IN READING COMPREHENSION

Order No. 8127735

WORLEY, CAROLYN JUERGENSMEYER, ED.D. *University of Illinois at Urbana-Champaign*, 1981. 304pp.

A major purpose of this study was to determine if a difference, independent of intelligence, exists between the reading comprehension of elementary school students who have more adequate concepts of reading and students who have less adequate concepts of reading. The achievement of this purpose was guided by the following research questions: (1) Do second grade students who have more adequate concepts of reading have higher comprehension achievement, as measured by reading comprehension subtest scores, than second grade students with similar IQs who have less adequate concepts of reading? (2) Do fifth grade students who have more adequate concepts of reading have higher comprehension achievement, as measured by reading comprehension subtest scores, than fifth grade students with similar IQs who have less adequate concepts of reading? (3) Is there a relationship between the degree of adequacy of students concepts of reading and grade level?

Procedure. Three twenty minute individual interviews were conducted by the researcher with twenty second grade and twenty fifth grade students to assess their concepts of reading. Each interview was guided by a questionnaire. The first questionnaire consisted of open ended reading concept questions; the second consisted of text samples and specific reading concept questions related to the text samples, and the third questionnaire consisted of workbook exercises and specific reading concept questions related to the particular workbook item. The student's responses to selected questionnaire items were considered to reflect a "more adequate concept of reading" if they included one or more references to comprehension.

Results. A difference was found between the reading comprehension of elementary school students who have more adequate concepts of reading and students with similar IQs who have less adequate concepts of reading. This difference was significant at the .05 level in four of six analyses for second grade students and in six of six analyses for fifth grade students. For second grade students this difference was significant when adequacy of reading concept was assessed by responses to Questionnaire 2, *Definitions of Reading in Reaction to Reading Specific Texts*, or by a total score based on responses to all three questionnaires. For fifth grade students this difference was significant when adequacy of reading concept was assessed by responses to "What is reading?" (Questionnaire 1), by responses to Questionnaire 2, or by a total score based on responses to all three questionnaires. In all cases the analysis of covariance results were supported by the partial correlations.

The relationship between the degree of adequacy of students' concepts of reading and grade level was found to be significant by one of three chi-square tests and by two of three *t* tests. When reading concept adequacy was assessed by responses to Questionnaire 1, chi-square results and *t*-test results were significant. When reading concept adequacy was assessed by responses to all three questionnaires, *t*-test results were significant.

Conclusions. There is a difference, independent of intelligence, between the reading comprehension of elementary school students who have more adequate concepts of reading and students who have less adequate concepts of reading. The data partially support the first and third conclusions and fully support the second conclusion: (1) Second grade students who have more adequate concepts of reading have higher reading comprehension than second grade students with similar IQs who have less adequate concepts of reading. (2) Fifth grade students who have more adequate concepts of reading have higher reading comprehension than fifth grade students with similar IQs who have less adequate concepts of reading. (3) There is a relationship between the degree of adequacy of students' concepts of reading and grade level.

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